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An Eclipse of Jupiter's 3rd Satellite, December 4, 1871.
By Capt. William Noble.

It is impossible to say at what instant the satellite first commenced to diminish in brightness; but it certainly began to wane some minutes before its final extinction. I got my last reliable glimpse of it at $8^{h}\ 52^{m}\ 16^{s}{\cdot}6$ L.M.T., which I assume to be $= 8^{h}\ 51^{m}\ 59^{s}{\cdot}1$ G.M.T. Its disappearance, according to the *Nautical Almanac*, should have taken place at $8^{h}\,50^{m}\,40^{s}{\cdot}4$ G.M.T.; showing an error of $1^{m}\ 18^{s}{\cdot}7$. I confess, however, my ignorance as to whether the final extinction of a satellite, the instant when it is theoretically dichotomized,—or what?—is spoken of as an eclipse, in our National Ephemeris.

Occultation of the Planet Vesta by the Moon on Dec. 30, 1871.
By Mr. Hind.

The planet *Vesta* will be visibly occulted by the Moon in these latitudes on the evening of December 30. Though the phenomenon is one merely of astronomical curiosity, I have calculated the circumstances for Greenwich, and find them as follow:—

		h m	°
Immersion	Dec. 30	10 44 M.T.	88
Emersion	,,	11 52	241

I am not aware that there is upon record any observed occultation of this planet, or of any other member of the group. The brightness of *Vesta* will render the observation an easy one, in good telescopes.

Observations of Encke's Comet. By H. W. Hollis, Esq.

I note that, at the last meeting, certain remarks were made by the Astronomer Royal and others upon the appearance of Encke's Comet. I have paid considerable attention to this object by means of my 8-inch achromatic, and as I have not yet seen any report which agrees with my own observations, I beg to lay before the Society a drawing copied from one made by myself at the telescope on the evening of the 12th November last, with a Kellner eye-piece, power 120. The drawing is carefully made, and I consider truly represents what I saw. My attention was particularly arrested by the sharp definition of the two edges of the fan-shaped nebulosity; and I could not help asking myself whether the true form of the body were not in all probability a hollow cone. I say a *hollow* cone, because I distinctly saw by averted vision a slight condensation of the light towards both edges, particularly the one running N. and S., on the following, or eastern, side of the comet, whereas a solid cone would appear brightest in the middle and grow fainter to the edges. I made an attempt to

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measure with the position-micrometer the angle formed by the two well-defined edges, but the comet would not bear any illumination of the wires, so I inserted a thick wire (made of a horse-hair) which I could see plainly against the sky, and by this I made the angle 86 degrees ±. Definition was exceptionally good, the next entry in my observatory-book being "δ *Cygni* clearly split."

Keele, Newcastle, Staffordshire, Dec. 2, 1871.

Observations of Tempel's Comet (1871, *Nov.* 3), *at Mr. Bishop's Observatory, Twickenham.* By J. R. Hind, F.R.S.

	Twickenham M.T.	R.A.	N.P.D.
	h m s	h m s	° ′ ″
Nov. 8	5 47 34	18 39 50·07	104 9 15·9
9	6 9 24	18 40 17·80	105 7 40·8
10	5 51 29	18 40 43·95	106 4 19·1
12	5 52 38	18 41 38·70	107 57 24·7

Post-perihelion Places of Tempel's Comet, calculated from Mr. Hind's Elements. By Mr. W. E. Plummer.

0h G.M.T.	R.A.	N.P.D.	Log. Δ.
	° ′	° ′	
1871, Dec. 21	281 50	139 55	0·1340
29	280 6	145 30	0·1142
1872, Jan. 6	277 23	151 21	0·0786
14	273 2	157 20	0·0342
22	264 14	164 8	9·9795
30	233 30	171 28	9·9171
Feb. 7	151 8	168 55	9·8546
15	126 16	153 7	9·8108
23	119 40	133 24	9·8105
Mar. 2	117 22	115 1	9·8597
10	116 46	100 59	9·9370
18	117 4	91 11	0·0199

On Feb. 15 the intensity of light is three times that at the date of the Comet's discovery, and on March 10 it is precisely the same. The Comet may be again observed in Europe in March.

Elements and Ephemeris of Tempel's Comet.
By J. R. Hind, F.R.S.

The following elements are founded upon an observation by Dr. Winnecke at Carlsruhe on Nov. 5, and two observations at Mr. Bishop's Observatory on Nov. 8 and 10.

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